Recent Progress in Cervical Oncology

Widespread use of the Papanicolaou smear for more than ten years has been associated with a reduction in deaths from uterine cancer in this country. It is not certain that the reduction is attributable to this screening device, since the decline began before the introduction of Papanicolaou smears; but certainly the vaginal smear has proved that early detection of cancer of the cervix is important to effective treatment. Further, attention has been focused on the early pathologic changes of the cervical epithelial abnormality and on the value of periodic gynecologic examination. As a result of this trend, the first large scale epidemiologic study of the behavior of cervical dysplasia has been reported[1] and cohesive theories, well founded in clinical observations, suggest the origin of cervical malignancy in fields of dysplasia or subcylindrical cell anaplasia.[2] There is presumptive indication that the initial size of such dysplastic fields may determine the ultimate size of the malignant lesion, and that multicentric origin, even for such early lesions, is relatively common.

Attempts to decrease the ultimate incidence of carcinoma of the cervix through destruction of areas of cervical dysplasia, and the replacement of thermocoagulation with tissue freezing are being investigated but no conclusive evidence of their benefit is yet available.

The difficulty of applying objective criteria to the determination of whether early carcinoma of the cervix is invading cervical stroma has led many investigators to employ a diagnostic category consisting of malignant lesions of limited size with likely early invasion. The evaluation of this group has proved difficult because of problems of adequate follow-up, but studies to date indicate lymph node metastasis in less than five percent of such cases, with relatively low incidence of recurrence.[3]

An important step in establishing the possible cause of cervical cancer has been the demonstration of association of type II Herpesvirus hominis with cervical malignant change.[4,5] The presence of extensive chromosomal abnormality in association with early carcinoma has been firmly established. Increasing attention is being directed toward steps necessary to assure the availability of the cervical screening technique to a larger share of the population at risk.[6]

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Amniocentesis in the Assessment of Fetal Maturation

Amniocentesis has become a routine procedure in the management of the Rh-immunized mothers. With increasing experience, it is evident that the maternal and fetal risks from amniocentesis are minimal and that amniotic fluid analysis is an acceptable and rational diagnostic method which can be applied to a number of clinical problems. One such application is the assessment of fetal maturation when a pre-term delivery may be indicated.

Possibly the most useful test for maturation is the determination of amniotic fluid creatinine concentration. The concentration is known to increase progressively after the 20th week of pregnancy, and the finding of 2 mg per ml of amniotic fluid indicates a gestational age of at least 37 weeks, as does a ratio of 3 to 1 or greater between the amniotic fluid creatinine and the maternal serum creatinine.

Amniotic fluid cytology is also of value as an indicator of fetal maturation. Two findings which correlate with a gestational age of at least 36 weeks are:

- A minimum of 20 percent of the cells present